

WHAT WE CLAIM IS:

1. Vacuum vaporization equipment for metallizing a strip substrate, comprising:

- a plurality of vaporization sources which are heated and fed with a metal
5 which is liquefied and vaporized by said sources, each vaporization source having a body extending along a main longitudinal direction;
- means for feeding said substrate over said sources along a feed direction,
- means for the delivery of metal wire to said sources,

wherein each of said sources is designed to form at least two pools of molten
10 metal on the surface thereof, aligned along said longitudinal direction , and wherein each of said two pools is fed by a corresponding metal wire delivered by corresponding delivery means.

2. Equipment according to claim 1, wherein each of said sources is provided with at least two cavities which are aligned along said longitudinal
15 direction, said cavities defining areas for the formation of said pools of molten metal.

3. Equipment according to claim 2, wherein the two cavities of each source have a rectangular shape in plan which is elongated along said longitudinal direction.

20 4. Equipment according to claim 1, , wherein the vaporization sources are made of electrically conducting material and are heated by Joule effect as a result of the passage of current.

5. Equipment according to claim 2, wherein the vaporization sources are made of electrically conducting material and are heated by the
25 Joule effect as a result of the passage of current.

6. Equipment according to claim 3, wherein the vaporization sources are made of electrically conducting material and are heated by the Joule effect as a result of the passage of current.

7. Equipment according to claim 1, wherein each of said sources
30 has at least two zones with a respective surface depression so as to form a respective pool of molten metal.

8. Equipment according to claim 7, wherein each of said surface depressions is formed by a plurality of superficial incision lines.

9. Equipment according to claim 1, wherein each of said sources has at least two zones for the formation of pools of liquid metal, each zone being defined in the region of a plurality of superficially processed lines.

5 10. Equipment according to claim 9, wherein said superficially processed lines are superficial incision lines.

11. Equipment according to claim 7, wherein each of said superficial depressions is formed by a single lowered surface portion of said source.

10 12. Equipment according to claim 9, wherein said superficially processed lines alter the superficial wettability of the surface of the source in the zones where said at least two pools must be formed.

13. Equipment according to claim 10, wherein said incision lines are laser incision lines.

15 14. Equipment according to claim 1, wherein said vaporization sources are alongside each other in an alignment transverse to the direction in which the substrate is fed.

15. Equipment according to claim 14, wherein the individual sources are offset with respect to each other along the direction in which the substrate is fed.

20 16. Equipment according to claim 1, wherein said sources are aligned with their longitudinal direction parallel to said feed direction of said substrate.

25 17. Source for the vaporization of a metal under vacuum comprising a body with an upper surface, said body being elongated in a longitudinal direction, said upper surface being treated to form at least two pools of molten metal thereon.

18. Source according to claim 17, wherein said upper surface has a pair of cavities alongside each other in the longitudinal direction to form two wells of molten metal.

30 19. Source for the vaporization of a metal under vacuum comprising an electrically conducting body which is elongated in a longitudinal direction, said body forming a continuous boat or bar with two opposite ends, wherein an upper surface of said boat or bar is treated to form at least two pools of molten metal thereon.

20. Source according to claim 19, wherein a pair of cavities are provided on said surface, arranged alongside each other in said longitudinal direction to form two wells of molten metal.

21. Source according to claim 20, wherein said cavities have a rectangular shape in plan.

22. Source according to claim 20, wherein said cavities have substantially flat bottoms.

23. Source according to claim 19, which is made of electrically conducting material which is heated by the direct passage of current.

24. Source according to claim 19, wherein said upper surface is provided with two zones for forming said two pools of molten metal, each zone being defined in the region of a plurality of superficially processed lines

25. Source according to claim 24, wherein said superficially processed lines are superficial incision lines.

26. Source according to claim 24, wherein said superficially processed lines alter the superficial wettability of the surface of the source in the zones where said at least two pools must be formed

27. Source according to claim 25, wherein said incision lines are laser incision lines.

28. A vacuum vaporization plant for the metallization of a web-like substrate, comprising:

- a plurality of vaporization sources supplied with a metal which is liquefied and vaporized by said sources, each source having a body elongated in a respective main longitudinal direction;
- means for feeding said substrate above said sources, in a feeding direction, said sources being arranged alongside each other in an alignment substantially perpendicular to said feeding direction;
- means for supplying said metal wire to said sources;
- means for supporting and heating said sources;

wherein each of said sources is suitable for forming thereon at least two pools of molten metal, wherein each of said pools of molten metal is fed with a respective metal wire supplied by a respective supplying means and wherein said sources are arranged with their main longitudinal direction inclined with

respect to the direction of feeding of the substrate at an angle other than 0° and 90°.

29. Plant according to Claim 28, wherein said at least two pools of each source are aligned with each other approximately in the main longitudinal direction of the source itself.

30. Plant according to Claim 28, wherein the angle between the main longitudinal direction of each source and the direction of feeding of the substrate is such as to position mutually the pools of liquid metal of adjacent sources so that they are at least partially staggered in the direction of said alignment, substantially perpendicular to the direction of feeding of the substrate.

31. Plant according to Claim 28, wherein each of said sources has at least two zones with a respective surface depression so as to form a respective pool of molten metal.

32. Plant according to Claim 31, wherein each of said surface depressions is formed by a plurality of superficial incision lines.

33. Plant according to Claim 28, wherein each of said sources has at least two zones for the formation of pools of liquid metal, each zone being defined in the region of a plurality of superficially processed lines.

34. Plant according to Claim 33, wherein said superficially processed lines are superficial incision lines.

35. Plant according to Claim 31, wherein each of said superficial depressions is formed by a single lowered surface portion of said source.

36. Plant according to claim 28, wherein the angle between the main longitudinal direction of the sources and the direction of feeding of the substrate is between 15° and 60° and preferably between 20° and 55° and even more preferably between 25° and 45°.